REMARKS

Summary of the Office Action

The foregoing amendment and remarks that follow are responsive to the Office Action mailed December 14, 2006. In that Office Action, the Examiner rejected Claims 33, 35-37, and 39-53 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,682,708 issued to Pool (POOL) and in view of U.S. Patent No. 5,111,957 issued to Hollander et al. (HOLLANDER) in further view of U.S. Patent No. 6,584,797 issued to Smith et al. (SMITH) and in further view of one or more additional references in combination with the above references.

Amendment to the Specification

Paragraph [0028] located in the Detailed Description portion of the Specification describes the foam panel as a "2-inch thick, 25PSI Dow square-edge extruded foam." It is generally known that this foam is a closed-cell structure foam. The product description may be found at www.dow.com. Additionally, the first page of the product information sheet for Dow square-edge extruded foam found at the above website is attached here as exhibit 1. The Specification was amended to explicitly describe the foam panel as the closed-cell structure type.

Rejection of Independent Claim 33 under 35 U.S.C. 103(a)

Claim 33 was rejected under 35 U.S.C. §103(a) as being unpatentable over POOL in view of HOLLANDER in further view of SMITH and in further view of U.S. Patent No. 4,892,193 issued to Thomas (THOMAS).

In the Office Action, the Examiner interpreted the POOL reference as disclosing "a barrier bag filled with a plurality of dry ice pellets enveloping the inner contents. (Office Action, Page 3). The Examiner then noted that POOL does not explicitly teach the barrier bag in abutting contact with the interior surface of the foam panels. However, the Examiner cited to HOLLANDER based on the belief that the HOLLANDER reference explicitly teaches the barrier bag in abutting contact with the interior surface of the foam panels. The Examiner then concluded that "it would have been obvious to one of ordinary skill in the art

to combine the container of Pool with the features of Hollander et al. because providing foam panels outside of the refrigeration advantageously allows for a more insulated and efficient cooling process." (Office Action, Page 3-4).

Establishing a *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438. Sources that may be used to provide a motivation to combine references include the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet,* 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58.

Applicant respectfully submits that a *prima facie* case of obviousness has not been established based on the cited references. As is discussed in detail below, all of the pending claims are believed to be allowable. Reconsideration and withdrawal of the 103 rejection is respectfully requested.

No Teaching or Suggestion of All of the Claim Limitations - Traversal of Rejection of Claim 33

A careful review of the POOL reference does not appear to teach, suggest, or motivate one of ordinary skill in the art to combine the container of POOL with the features of HOLLANDER. The POOL reference discloses a barrier bag surrounding the open-celled foam panels. The POOL reference does not appear to disclose a barrier bag filled with a plurality of dry ice pellets enveloping the inner contents similar to an embodiment of Applicant's invention. The POOL reference discloses refrigerant such as dry ice separated from the barrier bag by the open-celled foam panels. An aspect of Applicant's invention does

not contemplate separating the barrier bag and the dry ice with open cell foam panels.

Applicant submits that it would not have been obvious for one of ordinary skill in the art to take the barrier bag as taught by POOL and move the barrier bag such that the bag is in abutting contact with the interior surface of the foam panels. First, relocating the barrier bag within the open-cell foam panels appears to contradict the teaching of the POOL reference. "It has been discovered, and this invention is **predicated upon**, the discovery that a vapor barrier surrounding the cold storage compartment formed by the open-celled insulative slabs effectively and efficiently increases the ability of the open-celled foam to maintain the desired temperature range." (POOL Specification, Column 3, Lines 28-33). The POOL reference appears to suggest that it is important to surround the foam panels with the barrier bag because it "effectively matches the holding characteristics of the rigid closed-celled polystyrene foam" while using the more flexible open-celled foam. (Column 4, Lines 35-51). The barrier bag may prevent warm ambient air from penetrating through the foam panels where the refrigerant appears to be stored. Therefore, moving the barrier bag within the open-cell foam panels appears to teach away from the POOL reference.

The present invention uses closed-celled polystyrene foam to insulate the cold storage compartment. "The cryo-pack includes RSC-ASTM-D-5118, double-wall inner and outer shipping containers, **a 2-inch thick, 25 PSI Dow square-edge extruded foam** in between, and 51.60 lbs of dry ice." (Detailed Description, Para. 0028). The above-identified foam is closed-celled polystyrene foam. Closed-cell foam panels exhibit great resistance to the leakage of air or water vapor and insulate well. In contrast, open-cell foam panels do not resist leakage of air as well as closed-cell foam panels. To address this issue, POOL appears to surround the open-cell foam panels using a barrier bag to increase the resistance to air leakage. HOLLANDER addresses the disadvantage by using aluminum foil layered onto the surface of the open cell foam panels rather than surrounding the foam panels with a barrier bag. Thus, it would not have been obvious to move the barrier bag disclosed in POOL because it may no longer exhibit thermal insulation characteristics similar to the closed-celled polystyrene foam, unless, POOL can rely on other insulation techniques such as the aluminum foil used in HOLLANDER.

Additionally, vapor barriers generally prevent warm ambient air from flowing to cold air in order to inhibit condensation. However, if POOL were to relocate the barrier bag as the

Examiner believes would be obvious to one of ordinary skill in the art, the vapor barrier upon which POOL relies on for holding characteristics similar to closed-cell foam panels may be frustrated. The warm air would appear to flow through to the insulative open-cell foam panels and possibly cause condensation that may lead to mold and the spoiling of the shipped item.

The Examiner cited to HOLLANDER based on the belief that HOLLANDER teaches a barrier bag in abutting contact with the interior surface of the insulative foam panels. Assuming for arguments sake that HOLLANDER does teach the above, there are substantial differences that appear to suggest against combining the container of POOL with the teachings of HOLLANDER. HOLLANDER appears to suggest the use of foil to improve insulation rather than a barrier bag surrounding the open-cell foam panels. Therefore, if the barrier bag as shown in HOLLANDER is combined with the teachings of POOL, the insulation would still be inferior to that of Applicant's invention because the open-cell foam panels simply do not insulate as well as the closed-cell foam panels contemplated by Applicant's invention. Furthermore, the barrier bag in HOLLANDER includes gel-packs or other refrigerants for maintaining low temperatures. An aspect of Applicant's invention contemplates the barrier bag surrounding the refrigerant rather than incorporating the refrigerant into the barrier bag as disclosed in HOLLANDER.

In contrast, the bag in POOL does not appear to contain gel-packs or other refrigerants for maintaining low temperatures. HOLLANDER discloses "bags of frozen refrigerant such as a gel-pack bag and then placed in to the polyethylene bag. The polyethylene bag is then placed inside the invention – chill box." (Column 3, Lines 22-26). Incorporating the refrigerant into the barrier bag as disclosed in HOLLANDER appears to be motivated by allowing for a simpler packing method rather than increased insulation capabilities.

The barrier bag in HOLLANDER appears to be placed in abutting contact with the interior surface of the foam panels because the barrier bag provides the refrigerant for the cold storage compartment not because it provides, teaches, or suggests better insulation of the item to be shipped. Furthermore, HOLLANDER uses open-celled foam panels. The combination of a barrier bag within open-celled foam panels probably results in different insulation properties than that of closed-cell foam panels. Thus, HOLLANDER appears to rely on aluminum foil to improve the insulation of the invention. Both POOL and HOLLANDER do

not disclose the use of closed-cell foam panels with a barrier bag in abutting contact with the interior surface of the foam panels. Therefore, the rejection over claim 33 is respectfully traversed.

Claims 35-37 and 39-53

Claim 35-37 and 39-53 have been rejected under 35 U.S.C. §103(a) based on the POOL reference, in view of the HOLLANDER reference, in further in view of SMITH and in further view of one or more of the following references: THOMAS, U.S. Patent No. 5,600,958 issued to Henning et al., U.S. Patent No. 6,398,029 issued to Farison et al., U.S. Patent No. 5,441,170 issued to Bane, U.S. Patent No. 3,732,976 issued to Bessett et al., Published Application No. 2002/0189278 by Defelice et al. However, the above-identified prior art references do not address the shortcomings of the POOL and HOLLANDER references, as indicated above.

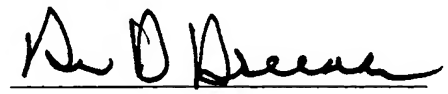
Therefore, the rejection over claims 35-37 and 39-53 are believed to be in condition for allowance.

Conclusion

In view of the foregoing, the application is believed to be in condition for allowance. Entry of the amendments and issuance of a Notice of Allowance is therefore respectfully requested. Should the Examiner have any suggestions for expediting allowance of the application, please contact Applicants' representative at the telephone number listed below.

If any additional fee is due, please charge deposit account 19-4330.

Respectfully submitted,

Date: Feb 7, 2007 By: 

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Building & Construction

1 PRODUCT NAME

STYROFOAM™ Square Edge Extruded Polystyrene Insulation

2 Manufacturer

The Dow Chemical Company
Building & Construction
200 Larkin
Midland, MI 48674
1-866-583-BLUE (2583)
Fax 1-989-832-1465
www.dowstyrofoam.com/architect

3 Product Description

STYROFOAM™ Square Edge insulation is an extruded polystyrene board that meets the needs of the commercial foundation and building floor slab market.

STYROFOAM extruded polystyrene has nearly 60 years of proven performance in wet environments. The closed-cell structure of STYROFOAM Square Edge insulation resists water pickup, enabling it to retain a high R-value† over time – a necessary property in wet, below-grade commercial foundation applications.

BASIC USE

STYROFOAM™ Square Edge insulation protects foundation damp-proofing and waterproofing, especially during backfilling. It also provides a secondary barrier against groundwater leakage. With STYROFOAM Square Edge insulation, freeze-thaw cycling of the foundation wall is minimized, reducing the potential for cracking. And a warmer foundation can reduce the potential for condensation.

STYROFOAM Square Edge insulation can be used against commercial interior walls and exterior foundation walls in above- and below-grade applications. STYROFOAM Square Edge insulation can be used under the slab or over the deck or subfloor. STYROFOAM Square Edge insulation is suitable for use in pervious, semi-pervious and practically impervious soils.

SIZES

Square Edge
Width and length:
2' x 8' and 4' x 8'
Thickness:
.75", 1", 1.5", 2", 2.5", 3", 4"

Not all product sizes are available in all parts of the country. Contact your local Dow representative for details.

4 Technical Data

APPLICABLE STANDARDS

STYROFOAM™ Square Edge insulation meets ASTM C578 – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation, which includes:

- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- D696 – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- ASTM C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions

STYROFOAM Square Edge Extruded Polystyrene Insulation

†R means resistance to heat flow. The higher the R-value, the greater the insulating power.